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EXAMINER	
SCHWARTZ, DARREN B	

ART UNIT	PAPER NUMBER
2435	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/530,293	NASLUND ET AL.	
	Examiner	Art Unit	
	DARREN SCHWARTZ	2435	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 May 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *44-78* is/are pending in the application.

4a) Of the above claim(s) *63-78* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *44-62* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *05-06-09*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. The Examiner acknowledges amendments to the abstract and specification dated 06 May 2009.

2. Applicant argues claims 63-78 should be examined on the merits.

The Examiner disagrees. Applicant responded to the restriction/election requirement dated 25 November 2008 to examine species I on the merits "without traverse" (see response filed 24 December 2008). In said response, applicant amended claims 63, 64 & 77 to depend upon claim 44.

Ergo, claims 44-62 are drawn on elected species I, which are examined on the merits. Claims 63-78 are drawn to non-elected species and withdrawn from consideration.

The requirement is still deemed proper and is therefore made FINAL.

3. Applicant's arguments with respect to claims 44 and 46-62 have been considered but are moot in view of the new ground(s) of rejection. However, the Examiner will address issues raised by applicant.

4. The Examiner notes that while applicant has incorporated essential subject matter into claim 44 from claim 45, applicant has further amended claim 44 to

incorporate subject matter outside claims 44 & 45, thereby sufficiently altering the scope of the claims & necessitating a further search of the art. Applicant amends claim 51.

5. In light of the amendments to the claims, the rejections under 35 U.S.C. 112, second paragraph, are withdrawn.

The fact that the Examiner may not have specifically responded to any particular arguments made by Applicant and Applicant's Representative, should not be construed as indicating Examiner's agreement therewith.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 44-59 and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wireless Identity Module," 12 July 2001, Wireless Application Protocol, WAP-260-WIM-20010712-a, hereinafter referred to as WIM, in view of Brown et al (U.S. Pat 5537474 A), hereinafter referred to as Brown.

Re claim 44: WIM teaches a tamper-resistant security device (page 94: "13.2 WIM for Networks Not Utilizing a Smartcard Based SIM; In networks that do not utilize a smartcard based SIM, the WIM can be implemented … in a tamper-resistant device, other than a smartcard") comprising:

memory for storing user credentials, including at least a security key; an Authentication and Key Agreement (AKA) module for performing an AKA process with said security key (page 8: "*The WAP Identity Module (WIM) is used in performing WTLS and application level security functions, and especially, to store and process information needed for user identification and authentication. The functionality presented here is based on the requirement that sensitive data, especially keys, can be stored in the WIM, and all operations where these keys are involved can be performed in the WIM.*"), an application for cooperation with said AKA module that performs enhanced security processing of at least one parameter associated with said AKA process (page 8: "For optimum security, some parts of the security functionality need to be performed by a tamper-resistant device, so that an attacker cannot retrieve sensitive data. Such data is especially the permanent private keys used in the WTLS handshake with client authentication, and for making application level electronic signatures (such as confirming an application level transaction);" page 8 "The WAP Identity Module (WIM) is used in performing WTLS and application level security functions, and especially, to store and process information needed for user identification and authentication.;" ";"). While WIM provides for "regular mobile phones" (WIM: page 8) and internal application interfaces (WIM, page 8: "PKI functionality (including WTLS client authentication with private keys, and WMLScript digital signatures) can be implemented in pure software in normal PDAs or phones, using password protection, encryption etc. However, such implementations cannot be considered as WIM implementations, and are out of scope

of this specification. At the same time, service interfaces defined in this specification may be useful for designing internal software interfaces for these implementations.").

However, WIM does not explicitly disclose a communications interface for external communication and an application interface internal to the tamper-resistant security device for interfacing said AKA module and said cooperating application.

Brown teaches a communications interface for external communication (Fig 1, elt 110 & 120) and an application interface internal to the tamper-resistant security device for interfacing said AKA module and said cooperating application (col 3, lines 48-58).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of WIM with the teachings of Brown, for the purpose of internalizing all cryptographic components into one device, as taught by Brown. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the unity of Mobile Equipment in Brown into the teachings of WIM, since it has been held that forming in one piece an article which has been formerly been formed in two pieces, in this case, mobile equipment with a SIM, and put together involves only routine skill in the art (*Howard v. Detroit Stove Works,* 150 U.S. 164 (1893)).

Re claim 46: The combination of WIM and Brown teaches enhanced security processing includes at least one of: pre-processing of at least one AKA input parameter; and post-processing of at least one AKA output parameter (WIM: page 26: section 7.2.4.6; page 31: "Establishing pre-master secret").

Re claim 47: The combination of WIM and Brown teaches enhanced security processing includes encapsulation of said at least one AKA parameter (WIM: page 21: section 7.2.2.1; page 43: section 9.4.6).

Re claim 48: The combination of WIM and Brown teaches cooperating application is receiving at least one AKA parameter from said AKA process to generate a further AKA parameter that has higher security than said received AKA parameter (WIM: page 8: "This specification does not define exact requirements for tamper-resistance. Businesses can enforce certain requirements and policies using PKI based mechanisms. Applications should only accept certificates signed by Certification Authorities that are known to fulfill the requirements and policies. PKI functionality (including WTLS client authentication with private keys, and WMLScript digital signatures) can be implemented in pure software in normal PDAs or phones, using password protection, encryption etc. However, such implementations cannot be considered as WIM implementations, and are out of scope of this specification. At the same time, service interfaces defined in this specification may be useful for designing internal software interfaces for these implementations.").

Re claim 49: The combination of WIM and Brown teaches enhanced security processing includes evaluation of a predetermined number of consecutive AKA input parameters for verifying that said AKA input parameters can be used securely (WIM: page 18: "Signature verification by WIM may be used in cases where an application needs verification capability (e.g. certificate or end entity signature verification) but the

verification algorithm is not present in the ME, or the verification algorithm implementation is more efficient in the WIM.").

Re claim 50: The combination of WIM and Brown teaches enhanced security processing further includes combination of a predetermined number of consecutive AKA output parameters generated in response to a number of corresponding unique AKA input parameters (WIM: see various APDU commands: pages 74-78).

Re claim 51: The combination of WIM and Brown teaches means for registration or detection of information representative of security conditions in relation to said tamper-resistant security device; and means for performing security policy processing based on said information (Brown: col 4, lines 32-59; col 5, line 39 - col 6, line 3)

Re claim 52: The combination of WIM and Brown teaches the security conditions reflect at least one of an environment in which said security device is operated and a network interface over which a request for AKA processing originates (WIM: page 8: "The Wireless Application Protocol (WAP) is a result of continuous work to define an industry-wide specification for developing applications that operate over wireless communication networks.").

Re claim 53: The combination of WIM and Brown teaches security policy processing includes at least one of a security policy decision process and a security policy enforcement process (WIM: page 8: "This specification does not define exact requirements for tamper-resistance. Businesses can enforce certain requirements and policies using PKI based mechanisms. Applications should only accept certificates

signed by Certification Authorities that are known to fulfill the requirements and policies.").

Re claim 54: The combination of WIM and Brown teaches means for performing security policy processing comprises means for selectively disabling direct access to said AKA module (WIM: page 95: "In a typical case, the PIN-G is used to protect all files (which need to be protected) and keys except non-repudiation keys. If the PIN-G is not disabled, the ME must send the PIN-G after the WIM application is selected, in order to be able to use keys and perform other operations that require the PIN-G. More precisely, the ME SHOULD do the following when the secure functions are required the first time.").

Re claim 55: The combination of WIM and Brown teaches tamper-resistant security device comprises means for detecting whether said tamper-resistant security device is operated in its normal environment or in an environment considered insecure (WIM: page 49: "For the WAP-WTLS application there are two predefined SEs with their associated number."), and said means for performing security policy processing comprises means for disabling direct access to said AKA module when operated in said insecure environment (WIM: page 95: "In a typical case, the PIN-G is used to protect all files (which need to be protected) and keys except non-repudiation keys. If the PIN-G is not disabled, the ME must send the PIN-G after the WIM application is selected, in order to be able to use keys and perform other operations that require the PIN-G. More precisely, the ME SHOULD do the following when the secure functions are required the first time.").

Re claim 56: The combination of WIM and Brown teaches said cooperating application includes a security enhancing application, and said security device further comprises means for transferring a request for AKA processing directly to said AKA module if said security device is operated in an environment considered secure, and means for transferring said request to said security enhancing application if said security device is operated in an environment considered insecure (WIM: page 74, section 11.3.6.4: "PERFORM SECURITY OPERATIONS").

Re claim 57: The combination of WIM and Brown teaches cooperating application is performing at least part of the computations in connection with end-to-end key agreement between users (WIM: page 26, section 7.2.4.5: "WIM-KeyAgreement").

Re claim 58: The combination of WIM and Brown teaches cooperating application is masking key information generated by said AKA module (WIM: page 17: "The WIM is used to protect permanent, typically certified, private keys. The WIM stores these keys and performs operations using these keys;" page 18: "Application level security operations that use the WIM include signing and unwrapping a key").

Re claim 59: The combination of WIM and Brown teaches cooperating application is a software application installed in an application environment of said tamper-resistant security device (WIM: page 63: "The WIM application may have to reside on the card with other applications, eg, GSM. It is selected using an Application Identifier (AID) which is a combination of a Registered Application Provider Identifier (RID) and a Proprietary Application Identifier Extension (PIX) [ISO7816-5].").

Re claim 61: The combination of WIM and Brown teaches cooperating application is a privacy enhancing application, which participates in managing a user pseudonym (WIM: page 12: "A tamper-resistant device which is used in performing WTLS and application level security functions, and especially, to store and process information needed for user identification and authentication.").

7. Claim 60 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wireless Identity Module," 12 July 2001, Wireless Application Protocol, WAP-260-WIM-20010712-a, hereinafter referred to as WIM, Brown et al (U.S. Pat 5537474 A), hereinafter referred to as Brown, in further view of Vatanen et al (WO 00/48416), hereinafter referred to as Vatanen.

Re claim 60: The combination of WIM and Brown teaches all the limitations of claim 59 as previously discussed.

However, Vatanen teaches said application is securely downloaded into said tamper-resistant security device from a trusted party (page 4, line 34 – page 5, line 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of WIM and Brown with the teachings of Vatanen, for the purpose of installing authenticate applications on a portable device, as is known in the art.

8. Claim 62 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wireless Identity Module," 12 July 2001, Wireless Application Protocol, WAP-260-WIM-

20010712-a, hereinafter referred to as WIM, Brown et al (U.S. Pat 5537474 A), hereinafter referred to as Brown, in further view of Miyoshi (U.S. Pat Pub 2003/0074570 A1), hereinafter referred to as Miyoshi.

Re claim 62: The combination of WIM and Brown teaches all the limitations of claim 61 as previously discussed.

However, Vatanen teaches said privacy enhancing application is requesting an AKA response from said AKA module based on an old user pseudonym and for generating a new user pseudonym based on the received AKA response (Fig 5: elements “RETURN TEMPORARY INTERFACE ID” and “DISTRIBUTE NEW REAL INTERFACE ID”).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of WIM and Brown with the teachings of Vatanen, for the purpose of updating access information on portable devices, as is known in the art.

Conclusion

Examiner's Note: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses to fully consider the references in entirety as potentially teaching all or part of the claimed

invention, as well as the text of the passage taught by the prior art or disclosed by the examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DARREN SCHWARTZ whose telephone number is (571)270-3850. The examiner can normally be reached on 7am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on (571)272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. S./
Examiner, Art Unit 2435
/Kimyen Vu/
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